WHAT IS CLAIMED IS:

1. A method for adjusting the resonant frequency of an acoustic resonator comprising the steps of:

identifying an electrode-piezoelectric stack having an off-target resonant frequency, said electrode-piezoelectric stack having conductive electrode layers; and

oxidizing at least one of said conductive electrode layers of said electrode-piezoelectric stack so as to achieve a target resonant frequency that is dissimilar from said off-target resonant frequency, including intentionally inducing oxidation by exposing said at least one conductive electrode layer to an oxidizing environment.

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2. The method of claim 1 wherein said step of oxidizing includes thermally oxidizing said at least one conductive electrode layer of said electrodepiezoelectric stack by exposing said electrode-piezoelectric stack to an oxidation-inducing environment at an elevated temperature.

3. The method of claim 2 wherein said step of thermally oxidizing includes exposing a top electrode layer of said conductive electrode layers to said oxidation-inducing environment at said elevated temperature.

4. The method of claim 3 wherein said step of thermally oxidizing includes exposing a top surface of said top electrode layer to said oxidation-inducing environment at said elevated temperature, said oxidizing being limited to a top region of said top electrode.

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The method of claim 1 wherein said step of oxidizing includes providing said oxidizing environment as air.



6. The method of claim 1 wherein said step of oxidizing includes forming said oxidizing environment within a rapid thermal annealer (RTA).

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7. The method of claim 1 further comprising a step of fabricating said electrode-piezoelectric stack to be suspended over a cavity.

8. The method of claim 1 further comprising a step of fabricating said electrode-piezoelectric stack over a Bragg reflector.

9. A method for stabilizing a resonant frequency of a film bulk acoustic resonator (FBAR) comprising the steps of:

providing a substrate;

forming a bottom electrode above said substrate;

forming a piezoelectric layer above said bottom electrode;

forming a top electrode above said piezoelectric layer, said top

and bottom electrodes and said piezoelectric layer being said FBAR; and

intentionally inducing oxidization of an upper portion of said top

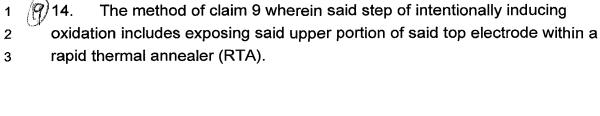
electrode by exposing said FBAR to an oxidation-inducing environment.

10. The method of claim 9 wherein said step of intentionally inducing oxidation includes providing thermal oxidation at an elevated temperature that is higher than an ambient temperature.

11. The method of claim 10 wherein said step of providing thermal oxidation includes establishing a temperature that is significantly above room temperature.

- 12. The method of claim 10 wherein said step of providing thermal oxidation includes elevating the temperature adjacent to said top electrode to 215 degrees Celsius.
- 1 4 13. The method of claim 9 wherein said step of intentionally inducing oxidization includes exposing said upper portion of said top electrode to air.





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- 15. A film bulk acoustic resonator (FBAR) comprising:
 - a substrate:
 - a bottom electrode above said substrate;
 - a piezoelectric layer above said bottom electrode; and
- a top electrode having an upper region above said piezoelectric layer, said upper region including metal oxide, at least a portion of said metal oxide being realized by an elevated temperature that is higher than the ambient temperature;

wherein said FBAR having said portion of metal oxide has a resonant frequency that is substantially closer to a target resonant frequency than said FBAR without said portion of metal oxide.



16. The FBAR of claim 15 wherein said top electrode has a thickness that is greater than a comparable electrode without said portion of metal oxide being realized by said elevated temperature that is higher than said ambient temperature.



17. The FBAR of claim 15 wherein said ambient temperature is room temperature.



> 18. The FBAR of claim 15 wherein said top and bottom electrodes and said piezoelectric layer form an element of an FBAR array.



19. The FBAR of claim 15 wherein said top and bottom electrodes and said piezoelectric layer form an element of a passband filter.

- 1 (9) 20. The FBAR of claim 19 wherein said resonant frequency is compatible
- with operation in a code division multiple access (CDMA) personal communi-
- 3 cation system (PCS).